

THE GENUS *PHYLLOPHAGA* HARRIS, 1826
(COLEOPTERA: SCARABAEIDAE) IN CUBA.
IV. DESCRIPTIONS OF SIX NEW SPECIES

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Abstract.—Six new species of *Phyllophaga* from Cuba are described and SEM micrographs of the male genitalia are given.

This paper is the fourth of the series about the genus *Phyllophaga* in Cuba. Six new species are described and figures of the male genitalia are given.

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***Phyllophaga villaclarensis*, new species**

Figs. 6, 12

Description.—MALE. Submedium in size, length 15 mm. Elytra, sides of pronotum, legs reddish brown; head, disc of pronotum dark brown; underparts yellowish brown. Clypeus coarsely, densely punctured, margins abruptly reflexed; median indentation shallow, angulate; clypeofrontal suture conspicuous. Frons coarsely punctured with small punctures; base impunctate. Pronotum less densely coarsely punctured, with larger punctures, umbilicate; anterior, posterior margins entire; lateral margins subcrenulate; sides medially, broadly dilate; anterior angles acute, posterior obtuse. Scutellum punctured on sides; disc impunctate. Elytra less densely punctured than pronotum; punctures smaller but larger than on head; sutural margin tumid. Pygidium almost triangular, with sparse, small, shallow punctures; apex narrowly rounded. Antennal club trisegmented, longer than funicle or clypeus at middle. Protibia tridentate; upper tooth distant from others; distal elongate; 3 or 4 anterior tarsal segments toothed internally apically. Coxal plates with long, erect, thick hairs. Sternites pubescent, with long, straight hairs. Urosternites scarcely punctured, small punctures, with some straight, fine hairs; last segment transversally grooved. Longer calcar of metatibia slender, acuminate, longer than first tarsal segment. Claws slightly curved; lower tooth distinctly shorter than upper tooth, at most slightly more than one-half as long.

Holotype. ♂, Las Villas, Cienaga de Zapata, Cuba, collector F. de Zayas, May 1959. Deposited in Illinois State Natural History Survey Division, Champaign, Illinois (ISNHSD).

Notes. The name of the species refers to the Villaclara province, where it was collected.

The aedeagal sheath is without a fringe of minute teeth. This species belongs to the *baracoana* subgroup.

***Phyllophaga santiaguensis*, new species**

Figs. 1, 7

Description. MALE. Small, length 11–12.5 mm, shining. Head dark brown; body yellowish brown to light reddish brown. Clypeus densely punctured; margins broadly reflexed; median indentation shallow, subangulate. Frons punctured as clypeus; base impunctate. Pronotum less densely punctured than head, with larger punctures; anterior, posterior margins entire; anterior half of lateral margins subcrenulate; sides broadly dilate medially; anterior angles slightly obtuse, posterior rounded. Scutellum punctured laterally, disc impunctate. Elytra more densely punctured than pronotum but less than head; punctures smaller than on pronotum; sutural margins tumid. Pygidium punctured as elytra, but punctures shallower; apex broadly rounded. Antennal club trisegmented, much longer than funicle. Protibia tridentate, upper tooth distant from median; distal elongate. Sternites, especially mesosternite, densely pubescent, with long, fine, erect hairs. Urosternites less densely punctured than sternites, with a few short, fine, erect hairs; last segment transversally grooved. Longer calcar of metatibia acuminate, twice as long as first tarsal segment. Claws gently curved, upper tooth elongate, fine, about twice as long as lower.

Holotype. ♂, Ciudadmar, Santiago de Cuba, Oriente, June 1954, collector Zayas. Deposited in ISNHSD.

Paratypes. 4 ♂♂, same data as holotype, deposited in ISNHSD. 1♂, Ciudadmar, Santiago de Cuba, Oriente, Cuba, June 1954, collector Zayar-Alayo, in California Academy of Sciences, San Francisco (CAS).

Notes. The name of the species refers to Santiago de Cuba, where it was collected.

This species is so close to *P. marinus* that it is almost impossible to differentiate them on external characteristics, except for the lateral margins of the pronotum, which are subcrenulate in *P. santiaguensis*, the antennal club is longer and the aedeagi are totally different.

***Phyllophaga marinus*, new species**

Figs. 2, 8

Description. MALE. Small, length 11 mm, shining. Head brown, body yellowish brown. Clypeus densely, coarsely punctured, punctures of different sizes; margins moderately reflexed; median indentation almost obsolete, subangulate. Frons punctured about as clypeus, base impunctate. Pronotum less densely punctured than head, but punctures larger; margins entire, sides broadly dilated medially; anterior angles slightly obtuse, almost straight, posterior obtuse. Scutellum triangular, punctures on sides, disc impunctate. Elytra more densely punctured than pronotum but less than head; punctures smaller than on pronotum; sutural margins conspicuous, moderately tumid. Pygidium punctured about as elytra; apex subtruncate with some long, fine erect hairs. Antennal club trisegmented, longer than funicle. Protibia tridentate; teeth equidistant, apical elongate; anterior tarsal segments not toothed internally. Coxal plates with a few long, erect, thick hairs. Sternites, especially mesosternites, densely, finely punctured with fine, long, erect hairs. Urosternites scarcely punctured; posterior half of last segment transversally grooved. Longer calcar of metatibia almost twice as long as first tarsal segment. Claws slightly curved; upper tooth fine, elongate, about twice as long as lower.

Holotype. ♂, Ciudadamar, 27 Oct. 1946, collector unknown. In ISNHSD.

Notes. The name of the species refers to area of Ciudadamar, in Santiago de Cuba, where it was collected.

In addition to the differences mentioned before, this species differs from *P. santiaguensis* in that the base of prothorax and base of elytra are equal in width and that the anterior tarsal segments are not toothed, as in *P. santiaguensis*. The sheath of the aedeagus is evenly rounded on its apical margin and the apex of the paramere is double angled.

***Phyllophaga potrerillo*, new species**

Description. MALE. Medium sized, length 14.5–16 mm, piceous. Clypeus densely, finely punctured; margins broadly reflexed; median indentation angulate, deep; clypeo-frontal suture conspicuous. Frons punctured as clypeus; base impunctate. Pronotum more sparsely, coarsely punctured than head, but punctures larger; sides broadly dilated medially; anterior half of lateral margins subcrenulate; anterior, posterior margins entire; anterior angles acute, posterior nearly rectangular. Elytra more densely punctured than pronotum but less than head; punctures smaller than on pronotum; sutural margin tumid. Scutellum punctured as elytra but disc impunctate. Pygidium more densely punctured than elytra but punctures shallower; apex broadly rounded, with fine, long, erect hairs on margin. Antennal club trisegmented, about as long as four preceding segments. Protibia tridentate; upper tooth almost obsolete, median triangular, distal elongate. Coxal plates with some thick, reflexed hairs. Sternites densely pubescent with long hairs. Urosternites densely, finely punctured, with a few long, thick hairs, especially on fifth segment; last segment transversely, posteriorly grooved. Longer calcar of metatibia acuminate, slender, about $1\frac{1}{3}$ length of first tarsal segment. Claws moderately curved, lower tooth very small, upper slender, about twice as long as lower.

Holotype. ♂, Pico Potrerillo, Las Villas, July 1955, collector F. de Zayas. Deposited in ISNHSD.

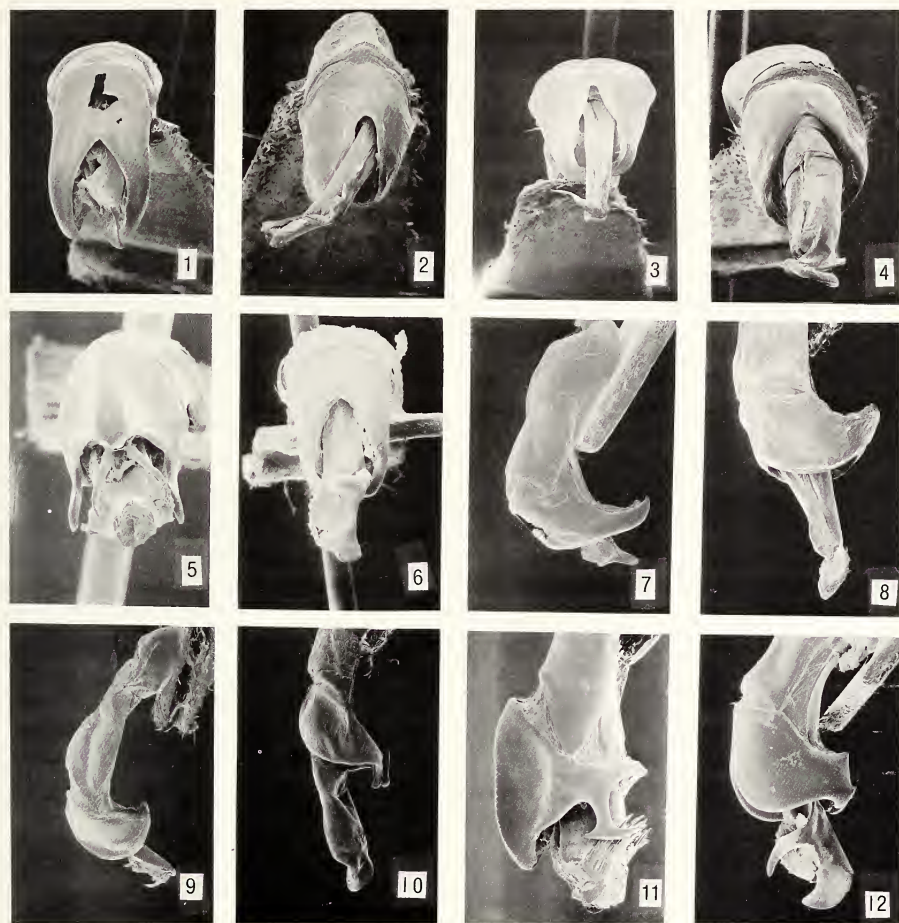
Paratype. Collector Alayo (no other labels), in CAS.

Note. The name refers to Pico Potrerillo, where it was collected.

***Phyllophaga pilotoensis*, new species**

Figs. 4, 10

Description. MALE. Submedium in size, length 14–15 mm, shining. Head dark brown; body, underpart light reddish brown. Clypeus densely, coarsely punctured; margins broadly reflexed; median indentation moderately deep; clypeo-frontal suture conspicuous. Frons punctured as clypeus, base impunctate; median line present. Pronotum less densely punctured than head, but punctures larger, deeper; anterior, posterior angles entire; sides broadly dilated medially; first half of lateral margins subcrenulate; anterior angles slightly obtuse, almost rectangular, posterior obtuse; some reflexed thick, long hairs from under sides. Scutellum semi-circular, punctured on sides about as on pronotum, but disc impunctate. Elytra more densely punctured than pronotum; sutural margins tumid. Pygidium finely, densely punctured; margin with erect, fine hairs; apex subtruncate. Antennal club trisegmented, about as long



Figs. 1-12. 1-6. Frontal view of aedeagus of six new *Phyllophaga* species. 1. *P. santiaguensis*. 2. *P. marinum*. 3. *P. potrerillo*. 4. *P. pilotoensis*. 5. *P. trinitariensis*. 6. *P. villaclarensis*. 7-12. Lateral view of aedeagus of six new *Phyllophaga* species. 7. *P. santiaguensis*. 8. *P. marinum*. 9. *P. potrerillo*. 10. *P. pilotoensis*. 11. *P. trinitariensis*. 12. *P. villaclarensis*.

as funicle. Protibia tridentate, median tooth stouter than distal. Sternites, especially mesosternite, densely pubescent, with erect, long, fine hairs. Urosternites less densely pubescent; hairs shorter, except for a tuft of long hairs on sides of fifth segment; posterior part of last segment transversely grooved. Longer calcar of metatibia 1½ times as long as first tarsal segment. Claws moderately curved, lower tooth stouter than upper.

Holotype. ♂, Moa, Oriente, 13-22 April 1945, collector J. Acuna. In ISNHSD.

Paratypes. 1♂, Batey de Moa, Oriente, Cuba, June 1954, collector Zayas-Alayo, in ISNHSD. 1♂, Piloto, Moa, Oriente, Cuba, June 1954, collector Zayas-Alayo, in CAS.

Notes. The name refers to Piloto, one of the locations where it was collected.

This species is close to *P. dubitatus* Garcia, but is unicolorous; the upper margins of the paramere are without minute spines, the aedeagal sheath is not auriculate and the aedeagal process consists of finely spinose ridges.

***Phyllophaga trinitariensis*, new species**

Figs. 5, 11

Description. MALE. Small, length 10 mm, shining. Elytra, underparts light brown; pronotum, scutellum, sutural margins, reddish brown; head piceous; legs yellowish brown. Clypeus densely, coarsely punctured; margins abruptly reflexed; median indentation shallow, subangulate. Frons coarsely punctured, less densely toward clypeus. Pronotum less coarsely, densely punctured, but punctures slightly larger; anterior margins entire; basal margin with a row of coarse punctures; anterior, basal angles obtuse; sides rounded, dilated medially. Scutellum with rows of punctures. Elytra punctured about as pronotum, but punctures slightly smaller; sutural margins tumid. Pygidium absent. Antennal club trisegmented, about as long as funicle. Protibia tridentate, upper tooth very small, distant from others; distal stouter, longer than median. Sternites finely, densely punctured. Coxal plates scarcely punctured, with a few short, thick erect hairs. Urosternites slightly less densely punctured, punctures smaller. Longer calcar of metatibia fine, acuminate about twice length of first tarsal segment. Claws strongly curved; upper tooth finer, longer than lower.

Holotype. ♂, collector F. de Zayas, from Topes, Lomas de Trinidad, Las Villas, Cuba, 1959, in ISNHSD.

Notes. The name refers to Trinidad, where it was collected.

The base of paramere is emarginate, the dorsal aedeagal paired processes are slender, convergent at middle then divergent from inside, and the medial aedeagal process with single row on each side of lateral spines which extend well on to sides of sheath.

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